

## IN THE CLAIMS

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Currently Amended) An information processing method of controlling access to computer resource(s) managed by an operating system in a computer, ~~such as a file, network, storage device, display screen or external device~~, the method comprising:

a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

an interception step of intercepting, ~~between a process and operating system~~, an operation request for a computer resource from a process, before the operation request is transferred to the operating system managed by the operating system, which is issued toward the operating system from the process;

a determination step of, when an operation request intercepted in said interception step represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and  
determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining  
whether an access right for the computer resource designated by the operation request intercepted in said interception step is present;

a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to the operating system and returning a result from the operating system to the process; and

a denial step of denying the operation request, if it is determined in the determination step that the process does not have the access right for outputting the first computer resource to the second computer resource no access right is present.

2. (Cancelled).

3. (Currently Amended) The method according to claim 1, wherein said ~~determination step includes determining whether the access right is present by looking up an access right management table containing resource designation information that designates a specific computer resource, condition information under which the access right is validated, and access right information [[that]] designates an access right that is extended but not defined in an existing environment.~~

4. (Cancelled).

5. (Cancelled).

6. (Currently Amended) The method according to claim 3 [[or 4]], wherein the access right information contains information that designates at least one of a right to move to another medium, a right to copy to another medium, a right to print, a right to write to a shared memory, a right to capture a screen, and a right to restrict use processes.

7. (Previously Presented) The method according to claim 1, wherein in said denial step, an access denial error message is returned to the process without any access to the requested computer resource.

8. (Previously Presented) The method according to claim 1, wherein in said denial step, a successful access message is returned to the process without any access to the requested computer resource.

9. (Previously Presented) The method according to claim 1, wherein in said denial step, the operation request is converted into an operation request for a dummy computer resource and transferred to the operating system, and a result from the operating system is returned to the process.

10. (Currently Amended) An information processing apparatus for controlling access to computer resource(s) managed by an operating system in a computer, such as a file, network, storage device, display screen or external device, the apparatus comprising:

a management table stored in a storage medium, wherein said management table provides, for each computer resource managed by the operating system, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

interception means for intercepting, between a process and an operating system, an operation request for a computer resource from a process before the operation request is transferred to the operating system managed by the operating system, which is issued toward the operating system from the process;

determination means for [[determining]] making a determination, when an operation request intercepted in said interception step represents outputting a first computer resource to a second computer resource, the determination being made by:

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; whether an access

~~right for the computer resource designated by the operation request intercepted by said interception means is present;~~

processing means for, if it is determined by said determination means that the process has the access right for outputting the first computer resource to the second computer resource ~~is present~~, transferring the operation request to the operating system and returning a result from the operating system to the process; and

denial means for denying the operation request if it is determined by said determination means that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

11. (Cancelled)

12. (Currently Amended) The apparatus according to claim 10, wherein said ~~determination means determines whether the access right is present by looking up an access right management table containing resource designation information that designates a specific computer resource, condition information under which the access right is validated, and~~ access right information ~~[[that]]~~ designates an access right that is extended but not defined in an existing environment.

13. (Cancelled).

14. (Cancelled).

15. (Currently Amended) The apparatus according to claim 12 [[or 13]], wherein the access right information contains information that designates at least one of a right to move to another medium, a right to copy to another medium, a right to print, a right to write to a shared memory, a right to capture a screen, and a right to restrict use processes.

16. (Previously Presented) The apparatus according to claim 10, wherein said denial means returns an access denial error message to the process without any access to the requested computer resource.

17. (Previously Presented) The apparatus according to claim 10, wherein said denial means returns a successful access message to the process without any access to the requested computer resource.

18. (Previously Presented) The apparatus according to claim 10, wherein said denial means converts the operation request into an operation request for a dummy computer resource, transfers the operation request to the operating system, and returns a result from the operating system to the process.

19. (Currently Amended) A storage medium which stores program code [[codes]] for controlling access to computer resource(s) managed by an operating system in

a computer such as a file, network, storage device, display screen, or external device, the program code comprising:

program code of a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

program code of an interception step of intercepting, between a process and operating system, an operation request for a computer resource from a process, before the operation request is transferred to the operating system managed by the operating system, which is issued toward the operating system from the process;

program code of a determination step of, when an operation request intercepted in said interception step represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining whether an access right for the computer resource designated by the operation request intercepted in said interception step is present;

program code of a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to the operating system and returning a result from the operating system to the process; and

program code of a denial step of denying the operation request, if it is determined in the determination step that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

20. (Canceled)

21. (Previously Presented) The medium according to claim 19, wherein in said determination step, it is determined whether the access right is present by looking up an access right management table containing resource designation information that designates a specific computer resource, condition information under which the access right is validated, and access right information that designates an access right that is extended but not defined in an existing environment.

22. (Cancelled).

23. (Cancelled).



24. (Currently Amended) The medium according to claim 21 [[or 22]], wherein the access right information contains information that designates at least one of a right to move to another medium, a right to copy to another medium, a right to print, a right to write to a shared memory, a right to capture a screen, and a right to restrict use processes.

25. (Previously Presented) The medium according to claim 19, wherein in said denial step, an access denial error message is returned to the process without any access to the requested computer resource.

26. (Previously Presented) The medium according to claim 19, wherein in said denial step, a successful access message is returned to the process without any access to the requested computer resource.

27. (Previously Presented) The medium according to claim 19, wherein in said denial step, the operation request is converted into an operation request for a dummy computer resource and transferred to the operating system, and a result from the operating system is returned to the process.

28. (Currently Amended) A program for causing a computer to control access to computer resource(s) managed by an operating system in a computer ~~such as a file, network, storage device, display screen, or external device,~~ the program comprising:

program code of a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

program code of an interception step of intercepting, ~~between a process and operating system,~~ an operation request for a computer resource from a process, before the operation request is transferred to the operating system ~~managed by the operating system,~~ which is issued toward the operating system ~~from the process;~~

program code of a determination step of, when an operation request intercepted in said interception step represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining whether an access right for the computer resource designated by the operation request intercepted in said interception step is present;

program code of a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer

resource to the second computer resource is present, transferring the operation request to the operating system and returning a result from the operating system to the process; and  
program code of a denial step of denying the operation request, if it is determined in the determination step that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

29. (Canceled)

30. (Currently Amended) The program according to claim 28, wherein if it is determined in said determination step that no access right is present, and access is denied in said denial step, an access right is permitted by inputting charging information.

31. (Original) The program according to claim 28, wherein the computer resource includes contents of a Web cast, digital broadcasting, and music distribution.

32. (Currently Amended) An information processing system constituted by connecting first and second terminals through a communication network, wherein the first terminal comprises:

interception means for intercepting, ~~between a process and operating system~~, an operation request for a computer resource of the second terminal from a process in the first terminal, before the computer resource of the second terminal is accessed via an

operating system of the first terminal, and managed by the second terminal, which is issued toward the operating system from the process, and

transmitting means for transmitting the operation request intercepted by said interception means to the second terminal; and

the second terminal comprises:

storing means for storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the second terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

receiving means for receiving the operation request intercepted by said interception means of the first terminal;

determination means for, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining

~~whether an access right for the computer resource designated by the operation request intercepted by said interception means is present;~~

processing means for, if it is determined by said determination means that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to the operating system in the first terminal and returning a result from the operating system to the process in the first terminal; and

denial means for denying the operation request if it is determined by said determination means that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

33. (Currently Amended) A control method for an information processing system constituted by connecting first and second terminals through a communication network, comprising:

a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the second terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

an interception step of intercepting, ~~between a process and operating system~~, an operation request for a computer resource of the second terminal from a process in the first terminal, before the computer resource of the second terminal is accessed via an

~~operating system of the first terminal, and managed by the second terminal, which is issued toward the operating system from the process, and~~

a determination step of when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining, in the second terminal, whether an access right for the computer resource, designated by the operation request intercepted in said interception step is present;

a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to the operating system in the first terminal and returning a result from the operating system to the process in the first terminal; and

a denial step of denying the operation request if it is determined in said determination step that the process does not have the access right for outputting the first computer resource to the second computer resource no access right is present.

34. (Currently Amended) A storage medium which stores program codes of control for an information processing system constituted by connecting first and second terminals through a communication network, comprising:

program code of a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the second terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

program code of an interception step of intercepting, ~~between a process and operating system,~~ an operation request for a computer resource of the second terminal from a process in the first terminal, before the computer resource of the second terminal is accessed via an operating system of the first terminal, and ~~managed by the~~ second terminal, which is issued toward the operating system from the process, and

program code of a determination step of, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; ~~determining, in the~~

~~second terminal, whether an access right for the computer resource, designated by the operation request intercepted in said interception step is present;~~

program code of a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource ~~is present~~, transferring the operation request to the operating system in the first terminal and returning a result from the operating system to the process in the first terminal; and

program code of a denial step of denying the operation request if it is determined in said determination step that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

35. (Currently Amended) A program which causes a computer to control an information processing system constituted by connecting first and second terminals through a communication network, comprising:

program code of a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the second terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

program code of an interception step of intercepting, ~~between a process and operating system~~, an operation request for a computer resource of the second



terminal from a process in the first terminal, before the computer resource of the second terminal is accessed via an operating system of the first terminal, and managed by the second terminal, which is issued toward the operating system from the process, and

program code of a determination step of, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining, in the second terminal, whether an access right for the computer resource, designated by the operation request intercepted in said interception step is present;

program code of a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to the operating system in the first terminal and returning a result from the operating system to the process in the first terminal; and

program code of a denial step of denying the operation request if it is determined in said determination step that the process does not have the access right for

outputting the first computer resource to the second computer resource ~~no access right is present.~~

36. (Currently Amended) An information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

~~interception means for intercepting ,between a process and operating system,~~ an operation request for a computer resource of the terminal from a process, before the computer resource of the terminal is accessed via an operating system of the information processing apparatus, and ~~managed by the other terminal, which is issued toward the operating system from the process, and~~

transmitting means for transmitting the operation request intercepted by said interception means to the terminal;

receiving ~~[[reception]]~~ means for receiving a reply to the operation request from the terminal,

wherein the terminal, when an operation request received by said receiving means represents outputting a first computer resource of the terminal to a second computer resource,

compares access right information of the first computer resource with access right information of the second computer resource,

determines whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determines whether the process has an access right for outputting the first computer resource to the second computer resource, wherein said management table provides, for each computer resource managed by the operating system of the terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated,

wherein said receiving means receives a determination result determined by the terminal as the reply.

37. (Currently Amended) An information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

storing means for storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the information processing apparatus, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

receiving means for receiving an operation request for a computer resource of the information processing apparatus from a process of the terminal, intercepted by the terminal, before the computer resource of the information processing apparatus is accessed via an operating system of the information processing apparatus;

determination means for, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining whether an access right is present for computer resource(s) in said information processing apparatus, which is designated by an operation request for the computer resource intercepted by the other terminal before access to the computer resource;

processing means for, if it is determined by said determination means that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to operating system in the [[other]] terminal and returning a result to a process in the terminal; and

denial means for denying the operation request if it is determined by said determination means that the process does not have the access right for outputting the first computer resource to the second computer resource no access right is present.

38. (Currently Amended) An information processing method for an information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

- an interception step of intercepting, ~~between a process and an operating system~~, an operation request for a computer resource of the terminal from a process, before the computer resource of the terminal is accessed via an operating system of the information processing apparatus, and managed by the other terminal, which is issued toward the operating system from the process, and
- a transmitting step of transmitting the operation request intercepted in said interception step to the terminal;
- a reception step of receiving a reply to the operation request from the terminal,
- wherein the terminal, when an operation request received in said receiving step represents outputting a first computer resource of the terminal to a second computer resource,
- compares access right information of the first computer resource with access right information of the second computer resource,
- determines whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and
- determines whether the process has an access right for outputting the first computer resource to the second computer resource, wherein said management table provides, for each computer resource managed by the operating system

of the terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated,

wherein in said receiving step, a determination result determined by the terminal is received as the reply.

39. (Currently Amended) An information processing method for an information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

a storing step of storing a management table in a storage medium,  
wherein said management table provides, for each computer resource managed by the operating system of the information processing apparatus, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

a receiving step of receiving an operation request for a computer resource of the information processing apparatus from a process of the terminal,  
intercepted by the terminal, before the computer resource of the information processing apparatus is accessed via an operating system of the information processing apparatus;

a determination step of, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining whether an access right is present for computer resource(s) in said information processing apparatus, which is designated by an operation request for the computer resource intercepted by the other terminal before access to the computer resource;

a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource ~~is present~~, transferring the operation request to operating system in the [[other]] terminal and returning a result to a process in the terminal; and

a denial step of denying the operation request if it is determined in said determination step that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

40. (Currently Amended) A storage medium which stores program codes of information processing of an information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

program code of an interception step of intercepting ~~between a process and an operating system~~, an operation request for a computer resource of the

terminal from a process, before the computer resource of the terminal is accessed via an operating system of the information processing apparatus, and managed by the other terminal, which is issued toward the operating system from the process, and

program code of a transmitting step of transmitting the operation request intercepted in said interception step to the terminal;

program code of a reception step of receiving a reply to the operation request from the terminal,

wherein the terminal, when an operation request received in said receiving step represents outputting a first computer resource of the terminal to a second computer resource,

compares access right information of the first computer resource with access right information of the second computer resource,

determines whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determines whether the process has an access right for outputting the first computer resource to the second computer resource, wherein said management table provides, for each computer resource managed by the operating system of the terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated,

wherein in said receiving step, a determination result determined by the terminal is received as the reply.



41. (Currently Amended) A storage medium which stores program codes of information processing of an information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

program code of a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the information processing apparatus, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

program code of a receiving step of receiving an operation request for a computer resource of the information processing apparatus from a process of the terminal, intercepted by the terminal, before the computer resource of the information processing apparatus is accessed via an operating system of the information processing apparatus;

program code of a determination step of determining of, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining

~~whether an access right is present for computer resource(s) in said information processing apparatus, which is designated by an operation request for the computer resource intercepted by the other terminal before access to the computer resource;~~

program code of a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource is present, transferring the operation request to operating system in the [[other]] terminal and returning a result to a process in the terminal; and

program code of a denial step of denying the operation request if it is determined in said determination step that the process does not have the access right for outputting the first computer resource to the second computer resource no access right is present.

42. (Currently Amended) A program which causes a computer to execute information processing of an information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

~~program code of an interception step of intercepting, between a process and an operating system, an operation request for a computer resource of the terminal from a process, before the computer resource of the terminal is accessed via an operating system of the information processing apparatus, and managed by the other terminal, which is issued toward the operating system from the process, and~~

program code of a transmitting step of transmitting the operation request intercepted in said interception step to the terminal;

program code of a reception step of receiving a reply to the operation request from the terminal,

wherein the terminal, when an operation request received in said receiving step represents outputting a first computer resource of the terminal to a second computer resource,

compares access right information of the first computer resource with access right information of the second computer resource,

determines whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determines whether the process has an access right for outputting the first computer resource to the second computer resource, wherein said management table provides, for each computer resource managed by the operating system of the terminal, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated,

wherein in said receiving step, a determination result determined by the terminal is received as the reply.

43. (Currently Amended) A program which causes a computer to execute information processing of an information processing apparatus connected to a [[another]] terminal through a communication network, comprising:

program code of a storing step of storing a management table in a storage medium, wherein said management table provides, for each computer resource managed by the operating system of the information processing apparatus, access right information representing access rights for outputting each computer resource to another computer resource, and conditions under which the access right is validated;

program code of a receiving step of receiving an operation request for a computer resource of the information processing apparatus from a process of the terminal, intercepted by the terminal, before the computer resource of the information processing apparatus is accessed via an operating system of the information processing apparatus;

program code of a determination step of determining of, when an operation request received by said receiving means represents outputting a first computer resource to a second computer resource,

comparing access right information of the first computer resource with access right information of the second computer resource,

determining whether a combination of the first and second computer resources satisfies a condition under which an access right is validated, and

determining whether the process has an access right for outputting the first computer resource to the second computer resource; determining

~~whether an access right is present for computer resource(s) in said information processing apparatus, which is designated by an operation request for the computer resource intercepted by the other terminal before access to the computer resource;~~

program code of a processing step of, if it is determined in said determination step that the process has the access right for outputting the first computer resource to the second computer resource ~~is present~~, transferring the operation request to operating system in the ~~[[other]]~~ terminal and returning a result to a process in the terminal; and

program code of a denial step of denying the operation request if it is determined in said determination step that the process does not have the access right for outputting the first computer resource to the second computer resource ~~no access right is present~~.

44.-56. (Cancelled).

57. The method according to claim 1, wherein said interception step further comprises intercepting an operation request from the operating system before access to a computer resource.

58. (New) The apparatus according to claim 10, wherein said interception means further comprises intercepting an operation request from the operating system before access to a computer resource.

59. (New) The medium according to claim 19, wherein said interception step further comprises intercepting an operation request from the operating system before access to a computer resource.

60. (New) The program according to claim 28, wherein said interception step further comprises intercepting an operation request from the operating system before access to a computer resource.